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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/220,462	12/23/1998	CHRISTIAN G. TONNA	4167-05	3469

26584 7590 05/30/2002

OTIS ELEVATOR COMPANY
INTELLECTUAL PROPERTY DEPARTMENT
10 FARM SPRINGS
FARMINGTON, CT 06032

EXAMINER

MCALLISTER, STEVEN B

ART UNIT	PAPER NUMBER
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3627

DATE MAILED: 05/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/220,462

Applicant(s)
Tonna et al

Examiner
Steven McAllister

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 27, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 7-38 is/are pending in the application.
- 4a) Of the above, claim(s) 2, 7-15, and 22-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec 23, 1998 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 20 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. This application contains claims 2, 7-15, and 22-38 drawn to an invention nonelected without traverse in Paper No.7 . A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the header bracket extending generally between the first and second sides of the door opening (cl. 19) and the flat motor disposed generally adjacent to the first side of the door opening (cl. 20) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa (JP 402081888) in view of Aulanko et al (5,665,944).

Yoshikawa discloses a car, at least one elevator door on the front face (see English abstract), first and second sheaves 12 disposed to the first and second sides of the door opening, a rope 13 forming a closed loop around the sheaves wherein the door is attached to the rope (see Fig. 1) and a drive motor 9a on the front portion of the car coupled to the elevator door. Yoshikawa does not show that the motor is integrated onto one of the sheaves. Aulanko et al shows a flat motor integrated onto a sheave (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify the drive apparatus of Yoshikawa by adding a flat motor integrated onto one of the sheaves as shown in Aulanko et al in order to save space, to simplify the drive system, and to avoid the failure mode of having one of the drive belts 9d fail.

New
rg. ➤ As to claim 17, since the sheaves 12 are mounted on the front face of the elevator car, and since the flat motor is integrated onto the sheave, Yoshikawa in view of Aulanko et al and Kershaw et al inherently disclose that the flat motor is mounted on the front face of the elevator car.

As to claim 21, Yoshikawa in view of Aulanko et al and Kershaw et al show all elements of the claim (see Fig. 1 of Yoshikawa).

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5. Claims 16, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu (JP 4-06329375) in view of Aulanko et al.

Yoshinobu shows an elevator car 1 with a front face (see Fig. 6); elevator doors; first and second sheaves 8, 9 with a closed loop rope in between (see Fig. 6); a drive motor 13 on a front portion of the car driving one of the sheaves via a pulley (see Fig. 6). Yoshinobu does not show a flat motor integrated onto a sheave. Aulanko et al show a flat motor. It would have been obvious to one of ordinary skill in the art to modify the apparatus of Yoshinobu by replacing the pulley driven reduction system of Yoshinobu with the flat motor integrated onto a sheave as taught by Aulanko et al in order to save space and eliminate the failure mode of the pulley 15.

As to claim 17, it is noted that the apparatus of Yoshinobu in view of Aulanko et al discloses that the flat motor is mounted on the front face of the car between its upper and lower edge since that is where the sheaves are mounted.

As to claim 21, it is noted that the apparatus of Yoshinobu in view of Aulanko et al shows all elements of the claim (see Fig. 6 of Yoshinobu).

6. Claims 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu in view of Aulanko et al as applied to claim 17 above, and further in view of Tracey (5,701,973).

Yoshinobu in view of Aulanko et al show the drive apparatus (sheaves 8, 9 , integrated flat drive motor, etc.) mounted between the upper and lower edges of the elevator car (Fig. 6 of Yoshinobu with the motor integrated onto the sheave). They show an elevator door hangar in

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front of the car (see Fig. 6 of Yoshinobu) and the flat drive motor in front of the car. They show a door hangar (11, 12 of Yoshinobu) disposed forward of the drive motor since the hangars are disposed in front of the drive rope (see Fig. 6 of Yoshinobu) and the rope is in front of the motor. Yoshinobu does not show the use of a header to mount the drive components. Tracey shows a header mounted between the top of the car and the top of the door opening (see Figs. 1 and 2 of Tracey). It would have been an obvious matter of design choice to further modify the apparatus of Yoshinobu by adding the header bracket of Tracey in order to allow modular construction of the drive system so that an entire drive unit and header could be changed out while troubleshooting takes place.

As to claim 19, it is noted the header extends between the first and second sides of the door opening and that the drive is mounted on the header bracket.

As to claim 20, it is noted that the drive motor is mounted generally adjacent the first side of the door opening.

7. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kappenhagen in view of Kershaw et al.

Kappenhagen shows an elevator car with a front face defining a door opening; at least one door coupled to the front face of the elevator car (Figs. 1 and 2); first and second sheaves 84, 86; a rope 88 forming a closed loop about the sheaves wherein the at least one door is attached to the rope; and a drive motor 82 disposed on a front portion of the elevator car and integrated onto one of the sheaves (since the motor is attached to the sheave to form substantially one unit and the

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claim recites “integrated onto”, not “integrated into”). Kappenhagen does not show that the motor is flat. Kershaw et al show a flat motor 80. It would have been obvious to one of ordinary skill in the art to modify the apparatus of Kappenhagen by using a flat motor as taught by Kershaw et al in order to save space, therefore decreasing the size and cost of the required bracket 70,80 needed to support the drive.

As to claim 21, it is noted that Kappenhagen in view of Kershaw et al shows all elements of the claim (see Fig. 1 of Kappenhagen).

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period


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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. McAllister whose telephone number is (703) 308-7052.


Steven B. McAllister

May 28, 2002


ROBERT P. OLSZEWSKI
SUPERVISORY PATENT EXAMINER
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